

MEMORANDUM FOR: All NWS Regional Headquarters, Regional
Maintenance Specialists, Electronic Systems
Analysts, and Electronics Technicians
[Engineering Handbook (EHB-9) distribution]

FROM: W/OPS1 - Mark Paese (Acting)

SUBJECT: Transmittal Memorandum for EHB-9 Issuance 02-07

1. Material Transmitted:

Engineering Handbook No. 9 (EHB-9), Automatic Radiotheodolite (ART-1/2), Section 2.3, Maintenance Note 28, Amplifier Switches P/N SA-23025-0103 or GHG 122 3121D 1003 and Safety Barrier Switch P/N SB0728 with SB9102 Mounting Bracket Installation, Revised Hydrogen Safety Switch Control Box Schematic Drawings

2. Summary:

In the event the amplifier switch or safety barrier switch fails, Maintenance Note 28 provides Amplifier Switches P/N SA-23025-0103 or GHG 122 3121D 1003, and Safety Barrier Switch P/N SB0728 with SB9102 Mounting Bracket installation procedures. A revised J407-Schematic. J407-1 and J407-2 Schematics are included.

3. Effect on Other Instructions:

Discard Modification Note 26 in EHB-9, section 3.3. Substitute pages 14, 15, and 16 in Hydrogen Safety Switch Instruction Manual 9-311 in EHB-9 section 1.3 with the replacement pages included in this maintenance note.

MAINTENANCE NOTE 28 (for Electronics Technicians)

Maintenance, Logistics, and Acquisition Division

W/OPS12: FJZ

SUBJECT : Installation of Amplifier Switch P/N SA-23025-0103 or GHG 122 3121D 1003 and Safety Barrier Switch P/N SB0728 with SB9102 Mounting Bracket

PURPOSE : To provide revised amplifier switch and safety barrier switch installation instructions

EQUIPMENT AFFECTED : Hydrogen or helium ART-1/2 sites using the hydrogen safety control box.

PARTS REQUIRED : Amplifier switch (ASN: J407-28) and barrier safety switch (ASN: J407-29) are stocked at the National Logistics Support Center

SPECIAL TOOLS REQUIRED : None.

MODIFICATION PROCUREMENT : Amplifier switch (ASN: J407-28) and barrier safety switch (ASN: J407-29)

SITES AFFECTED : All ART-1 and ART-2 sites with a hydrogen safety control box.

ESTIMATED TIME REQUIRED : 2 Hours

EFFECT ON OTHER INSTRUCTIONS : Discard Modification Note 26 in EHB-9, Section 3.3. Substitute pages 14, 15, 16, and the hydrogen safety switch schematic with the replacement pages included in this maintenance note (files J407SCH, J407SCH1, and J407-SCH2) in *Hydrogen Safety Switch Instruction Manual 9-311* in EHB-9 Section 1.3.

AUTHORIZATION : N/A

VERIFICATION STATEMENT : This maintenance note was successfully tested at the WFO Green Bay, WI (GRB)

TECHNICAL ASSISTANCE : For questions or problems pertaining to this Maintenance Note, please contact Franz J. G. Zichy at 301-713-1833, x128.

GENERAL:

This maintenance note provides revised amplifier switch and safety barrier switch installation instructions. Also included are the Hydrogen Safety Switch Schematics (files J407SCH, J407SCH1, and J407-SCH2) and replacement parts list. Insert the schematic drawings and parts list into Engineering Handbook No. 9 (EHB-9), *Automatic Radiotheodolite (ART-1/2)*, Section 1.3, *Hydrogen Safety Switch Instruction Manual 9-311*.

PROCEDURE:

NOTE: Perform this maintenance only if the present amplifier switch and/or barrier switch are defective.

A. Installation of Amplifier Switch

1. At the balloon inflation building, locate the main power breaker and turn off the alternating current (AC) power to the inflation building.
2. Open the lid of the hydrogen safety switch by loosening the two (2) plastic fasteners, (figure 1).
3. With a VOM, verify no AC power exists at TB1 terminals 1 and 2 inside the hydrogen safety switch.
4. Remove the leads from the terminals of the amplifier switch (figure 2).
5. Loosen the clamp on the left rail mount (figure 2) and remove.

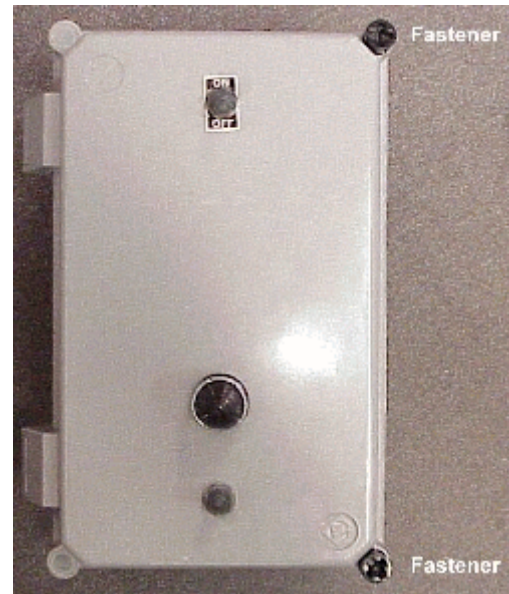
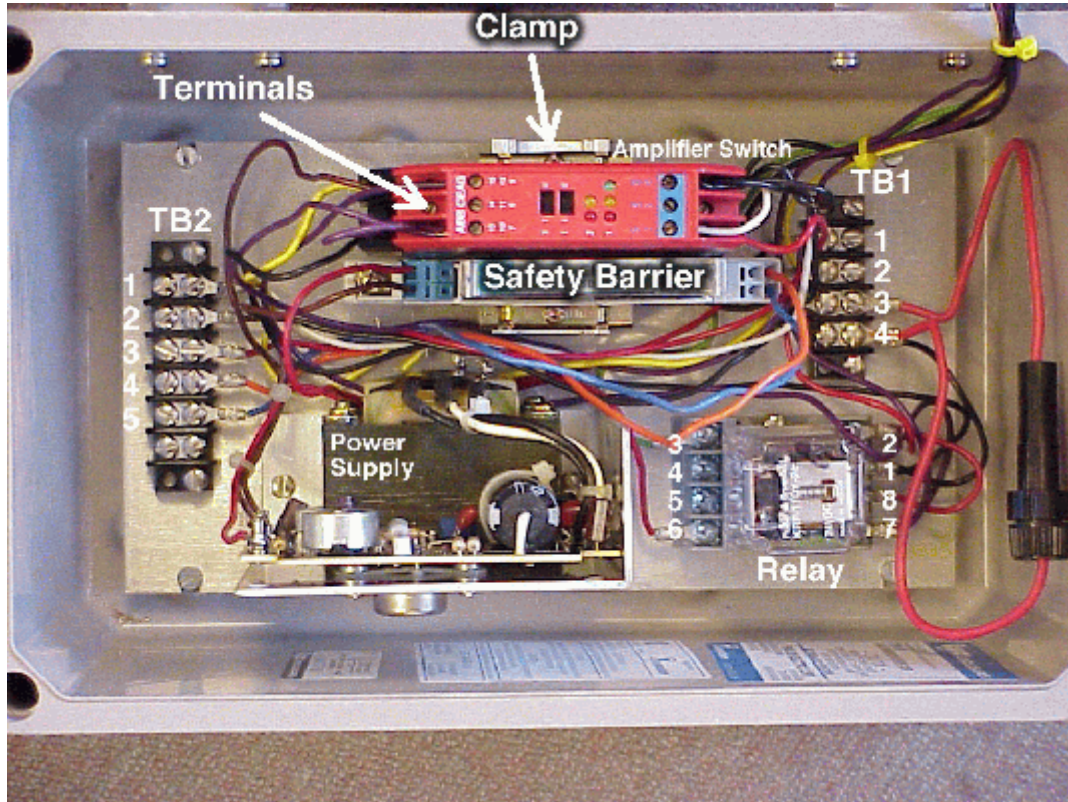


Figure 1

**Figure 2**

6. Remove the old amplifier switch.
7. Place the new amplifier switch on the rail mount.
8. Replace and tighten the clamp on the rail mount (figure 2).
9. Note the Amplifier switch type, and connect the appropriate leads to the amplifier switch terminals. See table 1 and the attached J407-SCHEMATIC drawings.

Table 1

Control Box Part and Terminal Wire Color	Amplifier Switch SA 0025 M 0003 Terminal	Amplifier Switch SA 23025 M0103 Terminal	Amplifier Switch GHG 122 3121D 1003 Terminal
TB2 Terminal (1) (White Wire)	11	4	6
TB2 Terminal (2) (Black Wire)	12	6	7
TB2 Terminal (3) (Red Wire)	7	1	2
24V RTN (Lower Reed) Part 20 (Purple Wire)	3	7	14
Relay (Part 25) Terminal (7) (Purple Wire)	4	9	9
Power Supply 24V Neg Out (Part 27) (Brown Wire)	6	12	11
Power Supply (Part 27) 115 VAC Terminal (2) (Black Wire)	1	13	13
Power Supply NEUT (White or Yellow Wire)	2	15	15
Jumper Terminals (Black Wire)	8 to 12	3 to 6	3 to 7
Jumper Terminals (Purple Wire)	3 to 5	7 to 10	14 to 16
Jumper Terminals (Red Wire)	NC	NC	1 to 2
Jumper Terminals (White Wire)	NC	NC	NC

B. Installation of Safety Barrier Switch with Mounting Bracket

1. At the balloon inflation building, locate the main power breaker and turn off the AC power to the inflation building.
2. Open the lid of the hydrogen safety switch by loosening the two (2) plastic fasteners (figure 1).
3. With a VOM, verify no AC power exists at TB1 terminals 1 and 2 inside the hydrogen safety switch.
4. Loosen the clamps on rail mount and remove old safety barrier switch by sliding off the right end of the rail mount (figure 2).
5. Remove leads from terminals of old safety barrier switch (figure 2).
6. Remove terminal lugs if necessary and strip insulation to expose approximately ¼ inch of wire.
7. Place leads onto terminals of the SB9102 mounting bracket as shown in table 2 and in wiring diagram (J407-SCHEMATIC).
8. Insert the safety barrier switch P/N SB0728 into the mounting bracket.

Table 2

Control Box Part	Terminal	Wire Color	Safety Barrier Switch Position
TB2	4	Orange	21
TB2	5	Blue	11
Relay (Part 25)	6	Purple or Red	23
Power Supply	24 V Neg out	Brown	13

This completes the installation of the amplifier switch or safety barrier switch.

REPORTING MODIFICATION

Report the completed modification on a WS Form A-26, according to instructions provided in Engineering Handbook No. 4 (EHB-4), Engineering Management Reporting System (EMRS), Part 2, and appendix J. A sample WS Form A-26 is attached. As an additional guide, refer to the following table:

Block #	Block Type	Information
5	Description	Installed the amplifier switch or barrier safety switch
7	Equipment Code	ART1 or ART-2 (as appropriate)
8	Serial Number	Use appropriate serial number
17a	Modification number	28

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Chief, Maintenance, Logistics, and Acquisition Division

Attachment A - WS Form A-26 Sample
Attachment B - Hydrogen Safety Switch Schematics
File j407SCH
File j407SCH1
File j407SCH2

Attachment A

WS FORM A-26 (4/94)		WS FORM A-26 (4/94)				U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE				Document Number G 49978			
ENGINEERING MANAGEMENT REPORTING SYSTEM MAINTENANCE RECORD													
General Information		1. Open Date 1 / 29 / 02		Time 0900		2. Initials JMM		3. Response Priority (check one) <input type="radio"/> Immediate <input type="radio"/> Low <input type="radio"/> Routine <input checked="" type="radio"/> Not Applicable		4. Close Date 1 / 29 / 02		Time 1100	
5. Description Installation of Amplifier Switch and Safety Barrier Switch, I.A.W. Automatic Radiotheodolite Modification Note 26													
Equipment Information		6. Station ID FFC		7. Equipment Code ART2		8. Serial Number 012		9. TM M		10. AT M		11. How Mal. 999	
12. EQUIPMENT OPERATIONAL STATUS TIMES		a. Fully Operational <input type="text"/>		b. Logistics Delay <input type="text"/>		Partly Operational		c. All Other <input type="text"/>		d. Logistics Delay <input type="text"/>		Not Operational <input type="text"/>	
												2:00	
13. Parts Failure Information										14. Work Load Information			
Block #	a. ASN	b. NSN	c. TM	d. AT	e. How Mal.	f. Qty.	g. Maint Hrs.	Type	Staff Hrs.				
1								a. Routine					
2								b. Non-routine					
3								c. Travel					
4								d. Misc.	2:00				
5								e. Overtime					
Miscellaneous Information		15. Maintenance Comments Installed Amplifier Switch and Safety Barrier switch I.A.W. Automatic Radiotheodolite Mod Note 26.								16. Initials JMM			
17. SPECIAL PURPOSE REPORTING		a. Mod. No. 26		b. Mod./Act./Deact.Date 1/29/02		c.		d.		e.			
18. CONFIGURATION MGMT. REPORTING (use as directed)		ASN		Vendor Part Number (New Part)		Serial Number (Old Part)		Serial Number (New Part)					

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Attachment B

Hydrogen Safety Switch Schematics

File j407SCH

File j407SCH1

File j407SCH2

